



MS APPEAL BRIEF-PATENTS  
Attorney Docket: 24320

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re patent application of:

AGGARWAL et al.

Confirmation No.: 5346

Serial No. 09/831,503

Art Unit: 1771

Filed: September 21, 2001

Examiner: J. Boyd

For: **VEHICLE ROOFLINING AND METHOD FOR PRODUCING THE SAME**

**TRANSMITTAL LETTER**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith for filing in the U.S. Patent and Trademark Office is the following:

- (1) Transmittal Letter; and
- (2) Three (3) Copies of Amended Appeal Brief.

If an Extension of Time is required and has not been separately requested, please consider this Transmittal Letter as including a request for such Extension of Time and as authorization to charge any fee as may be required by 37 CFR § 1.17, to Deposit Account No. 14-0112.

Please charge any fee deficiency, or credit any overpayment, in connection with this matter to Deposit Account No. 14-0112.

Respectfully submitted,  
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For: **VEHICLE ROOFLINING AND METHOD FOR PRODUCING THE SAME**

**AMENDED APPEAL BRIEF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This is an appeal to the Board of Patent Appeals and Interferences from the decision of Examiner Jennifer A. Boyd mailed May 17, 2004 finally rejecting claims 1 and 3 – 21 of the present Application. Appellants filed a Notice of Appeal on November 4, 2004. Appellants' brief was due on January 4, 2005; thus, a petition for a one-month extension of time and the appropriate fee are included with this Appeal Brief.

***REAL PARTY IN INTEREST***

The real party in interest is the assignee, RIETER AUTOMOTIVE (INTERNATIONAL) AG.

***RELATED APPEALS AND INTERFERENCES***

There are no related appeals or interferences.

***STATUS OF CLAIMS***

Claims 1 and 3 – 21 are pending and appealed. Claim 2 was canceled. The claims

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appealed are reproduced in the Appendix on pages 29 – 33.

### ***STATUS OF AMENDMENTS***

The claims have not been amended since the Final Official Action was mailed on May 17, 2004.

### ***SUMMARY OF INVENTION***

#### **A. Related Art Problems Overcome by the Invention**

It is known in the art that, because of their low intrinsic stability, large area vehicle parts, especially vehicle roofs, tend to deform, vibrate and oscillate during driving. This behavior is conventionally counter-acted by applying insulating material. In order to reduce the transmitting of driving noises into the vehicle compartment, the automotive industry has used multi-layer sound insulating systems. These sound insulating systems have been designed as spring-mass systems and comprise an airtight heavy layer coupled with a resilient layer in order to absorb the vibrations of the large area body parts and insulate sound transmission. Typically, a decorative layer is provided on the vehicle compartment side of the rooflining.

Prior art rooflinings have typically been comprised of individual layers that are bonded to each other with an air-permeable adhesive. However, it has been found with this type of rooflining that, due to the open cell construction of these sound absorbers, their adhesive components penetrate the decorative layer relatively quickly when the rooflinings are made and result in visually perceptible stains. Also, the general objective of the automotive industry is to reduce the weight of vehicles. This has the result that thinner and lighter body and lining parts are being increasingly used and these can result in considerable acoustic problems.

In order to alleviate the problems of the prior art, the presently claimed invention is

directed toward a rooflining, which, depending on its specific use, has optimum sound absorption and an aesthetically resistant appearance.

**B. Object of the Invention**

The presently claimed invention relates to a vehicle rooflining and is characterized by an especially good acoustic behavior, is suitable for an ultra-light construction, and has an aesthetically resistant appearance.

**C. The Claimed Invention**

Claims 1 and 12 are the independent claims involved in this appeal.

**1. Claim 1**

Independent claim 1 is directed toward a lining for a vehicle roof (which is depicted in figure 1 by element no. 2) and includes an air-permeable support layer, (depicted in figure 1 by element no. 3) an air-permeable first reinforcement layer (depicted in figure 1 by element no. 4) on a vehicle roof side of said support layer, and an air-permeable second reinforcement layer (depicted in figure 1 by element no. 5) on a passenger compartment side of said support layer.

*See present application at page 6, lines 2 – 20.* The lining further includes an air-impermeable back layer (depicted in figure 1 by element no. 9) on a vehicle roof side of said first reinforcement layer, an air-permeable decorative layer (depicted in figure 1 by element no. 6) on a passenger compartment side of said second reinforcement layer, and the back, first reinforcement, support, second reinforcement, and decorative layers being bonded to each other with an air-permeable adhesive (depicted in figure 1 by element no. 7). *See present application*

at page 6, lines 20 – 30. The liner further includes a semi-permeable and migration-resistant barrier layer (depicted in figure 1 by element no. 8), which is provided between the second reinforcement layer (depicted in figure 1 by element no. 5) and the decorative layer. *See application* at page 6, lines 20 – 30. The layers on the passenger compartment side have an air flow resistance of  $500 \text{ Nsm}^{-3} < R_1 < 2500 \text{ Nsm}^{-3}$ . *See present application* at page 6, lines 10 – 14.

**2. Claim 12**

Independent claim 12 is directed toward a method for making a vehicle rooflining having an air-permeable support layer (depicted in figure 1 by element 3), an air-permeable first reinforcement layer (depicted in figure 1 by element 4) on a vehicle roof side of said support layer, and an air-permeable second reinforcement layer (depicted in figure 1 by element 5) on a passenger compartment side of said support layer. *See present application* at page 6, lines 2 – 20. The rooflining further includes an air-impermeable back layer (depicted in figure 1 by element 9) on a vehicle roof side of said first reinforcement layer, an air-permeable decorative layer (depicted in figure 1 by element 6) on a passenger compartment side of said second reinforcement layer, and the back, first reinforcement, support, second reinforcement, and decorative layers being bonded to each other with an air-permeable adhesive (depicted in figure 1 by element 7). *See present application* at page 6, lines 20 – 30. The rooflining further comprises a semi-permeable and migration-resistant barrier layer (depicted in figure 1 by element 8) provided between the second reinforcement layer (depicted in figure 1 by element 5) and the decorative layer (depicted in figure 1 by element 6) to make an acoustically optimized and aesthetically resistant vehicle rooflining. *Id.; see also present application* at page 6, line 30 through page 7, line 5. The method further comprises providing an air-impermeable back layer

(depicted in figure 2 by element 9); covering said back layer with first reinforcement fibres (depicted in figure 2 by element 11); applying a support layer (depicted in figure 2 by element 3) to the reinforcement fibres (depicted in figure 2 by element 11); and impregnating the back layer, the reinforcement fibres, and the support layer jointly with a pre-determined quantity of a first component (depicted in figure 2 by element 12) of an adhesive by transporting the back layer, reinforcement fibres and support layer together through a bath (depicted in figure 2 by element 13) filled with this first component. *See present application* at page 7, lines 2 – 6. The layers 9, 11 and 3, which are impregnated with the component, are then squeezed through first squeezing rollers (depicted in figure 2 by element 14) disposed downline from the bath. *See present application* at page 7, lines 9 – 11. The next step in the method is to cover the thus impregnated support layer on a side thereof opposite the back layer with second reinforcement fibres (depicted in figure 2 by element 15) and then wetting the second reinforcement fibres with a second component (depicted in figure 2 by element 16) of the adhesive. *See present application* at page 7, lines 12 – 14. Next, a semi-permeable and migration-resistant barrier layer (depicted in figure 2 by element 8) is applied to the second reinforcement fibres and then the layers are pressed with second squeezing rollers (depicted in figure 2 by element 17) in order to allow the two adhesive components (depicted in figure 2 by elements 12 and 16) to react with each other. *See present application* at page 7, lines 14 – 18. Thereafter, a decorative layer (depicted in figure 2 by element 6) to the barrier layer (depicted in figure 2 by element 8) is applied such that the layers on the passenger compartment side have an air flow resistance of  $500 \text{ Nsm}^{-3} < R_1 < 2500 \text{ Nsm}^{-3}$ . *See present application* at page 6, lines 10 – 14.

***ISSUES***

- I. Whether claims 1, 3 – 4, 8 – 9 and 12 – 18 were properly rejected under 35 U.S.C. §102(b) as being anticipated by the Romesberg et al. ‘906 patent
- II. Whether claims 2 and 19 were properly rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as being obvious over the Romesberg et al. ‘906 patent;
- III. Whether claims 1, 5 – 8, 10 and 20 were properly rejected under 35 U.S.C. §103(a) as being unpatentable over the Rozek et al. ‘209 patent in view of the Doerfling et al. ‘353 patent and the Sandoe et al. ‘788 publication;
- IV. Whether claim 11 was properly rejected under 35 U.S.C. §103(a) as being unpatentable over the Romesberg et al. ‘906 patent in view of the Blum et al. ‘432 patent; and
- V. Whether claim 21 was properly rejected under 35 U.S.C. §103(a) as being unpatentable over the Romesberg et al. ‘906 patent.

***GROUPING OF CLAIMS***

Claims 1, 3 – 11 and 19 – 21 are all represented by independent claim 1.

Claims 12 – 18 are all represented by independent claim 12.

## **ARGUMENTS**

### **I. CLAIMS 1, 3 – 4, 8 – 9 and 12 – 18 IMPROPERLY STAND REJECTED UNDER 35 U.S.C. §102(b)**

The Examiner rejected claims 1, 3 – 4, 8 – 9 and 12 – 18 as being anticipated by the Romesberg et al. '906 patent.

For a reference to anticipate an invention, all of the elements of that invention must be present in the reference. The test for anticipation under section 102 is whether each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP §2131. The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP §2131. The elements must also be arranged as required by the claim. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990).

#### **a. The Examiner's Arguments**

As the basis for the rejection, the Examiner relies on the assertions made in her January 5, 2004 Office Action, which states the following:

As to claims 1 and 12 – 13, Romesberg teaches a headliner as shown in Figure 2. Romesberg teaches a *decorative cover layer* 52 comprising a woven fabric with a permeable vinyl coating (column 5, lines 53 – 59); the Examiner equates this decorative cover layer to Applicant's "decorative layer (6)". Romesberg teaches a *second layer of thermoplastic film or web adhesive* 46 which is identical in physical and chemical composition to *film* 24 (column 5, lines 5 – 10). Romesberg teaches that the *film* 24 prevents bleed through of the liquid adhesive resin (column 4, lines 20 – 25); therefore, if a *second layer of thermoplastic film or web adhesive* 46 has the same composition as *film* 24, then it will also prevent bleeding through. The Examiner equates this layer to Applicant's "semi-permeable and migration-resistant barrier layer (8)". Romesberg teaches a *second layer of fiber glass mat* 41 adjacent to the previous layer (column 3, lines 4 – 6 and column 4, lines 65 – 69) which the Examiner

equates to Applicant's "air-permeable second reinforcement layer (5)". Romesberg teaches an open celled foam layer adjacent to the fiber glass mat (column 2, lines 3 – 65 and column 4, lines 63 – 65) which the Examiner equates to Applicant's "air-permeable support (3)". Romesberg teaches a *first fiber glass mat* 37 (column 4, lines 45 – 50) equated to Applicant's "air-permeable first reinforcement layer (4)". Romesberg teaches a *non-porous film* 24 (column 4, lines 20 – 25) equated to Applicant's "air-impermeable back layer (9)". Romesberg teaches that resin and film layers are used to adhere the layers of the laminate (column 4, lines 15 – 45). Romesberg teaches delivering the layers of the laminate over a pair of rollers, impregnating the foam layer with resin in a bath, applying the fiber glass layers and cutting and compressing the laminated with heated molds (column 4, lines 1 – 655 and column 5, lines 45 – 69). *January 5, 2004 Office Action, at 3, emphasis in original.*

As to claims 3 and 16, Romesberg teaches that the open celled foam layer, or "air-permeable support (3)", can comprise polyurethane (column 7, lines 1 – 15). *Id.*

As to claims 4, 15 and 17, Romesberg teaches that the "air-permeable first reinforcement layer (4)" and "air-permeable second reinforcement layer (5)" are fiber glass mat 37 (column 4, lines 45 – 50) and fiber glass mat 41 (column 3, lines 4 – 6 and column 4, lines 65 – 69). *Id.*

As to claim 8, Romesberg teaches that [] the *film* 24, or "semi-permeable and migration-resistant layer (8)", prevents bleed through of the liquid adhesive resin (column 4, lines 20 – 25). *Id.*

As to claim 9, Romesberg teaches that the *film* 24, or "semi-permeable and migration-resistant layer (8)", can be an ethylene-acrylic acid copolymer sold by Dow Chemical under the trade designation DAF 899 (column 4, lines 15 – 20). According to Finlayson (US 4,975,138), DAF 899 has a thickness of 0.3mm (Finlayson, column 4, lines 15 – 35). *Id.*

As to claim 14, Romesberg teaches that the decorative cover layer 52, or "air-permeable decorative layer (6)" has a layer of vinyl which adheres the decorative cover layer to the rest of the laminate (column 5, lines 54 – 60). *Id.*

As to claim 18, Romesberg teaches the application of adhesive via the resin source 18 (column 4, lines 10 – 15). As seen in Figure 1, the resin source feeds to spraying mechanisms above the assembly line. *Id.* at 5.

In response to Applicant's Argument that the Examiner improperly assumes that the air flow resistance is inherent, the Examiner respectfully argues the contrary. It should be noted that the Applicant's physical limitations of the invention **as claimed** in independent claims 1 and 12 are met by Romesberg (US 5,582,906). Romesberg clearly anticipates the material features of the claims

lacking only the recitation of the property of air flow resistance. Given that Romesberg has the same utility as a headliner material and has the same claimed material features, one can only conclude that Romesberg inherently posses these properties absent some evidence. Additionally, the Examiner submits if the air flow resistance is not inherent, it is asserted that Applicant's claim must be incomplete. In other words, if Applicant's *sic* asserts a lack of inherency in Romesberg, then Applicant's claimed invention is missing an element that is critical to the invention, which would patentably distinguish it from the known prior art. The Applicant has indicated that air flow resistance is dependent on thickness of the composite material, pore distribution density and pore diameter among other factors which are not listed. However, the Applicant does not claim any of these parameters. If these parameters are crucial *physical* features that would result in the claimed invention with the specified air flow resistance, the parameters should be incorporated in the claim language. *May 17, 2004 Office Application*, pp. 3 – 5, *emphasis in original*.

Appellants respectfully traverse this rejection because not all of the features of the present invention as claimed are present in the cited prior art.

**b. The Presently Claimed Invention**

Claims 1 and 12 are the only independent claims in the present application. Independent claim 1 recites a “[l]ining for a vehicle roof (2) with: an air-permeable support layer (3), an air-permeable first reinforcement layer (4) on a vehicle roof side of said support layer, and an air-permeable second reinforcement layer (5) on a passenger compartment side of said support layer, an air-impermeable back layer (9) on a vehicle roof side of said first reinforcement layer, an air-permeable decorative layer (6) on a passenger compartment side of said second reinforcement layer, and the back, first reinforcement, support, second reinforcement, and decorative layers being bonded to each other with an air-permeable adhesive (7), and further comprising a semi-permeable and migration-resistant barrier layer (8) provided between the second reinforcement layer (5) and the decorative layer (6) to make an acoustically optimisable and aesthetically-resistant vehicle rooflining, *wherein the layers on the passenger compartment side have an air*

*flow resistance of  $500 \text{ Nsm}^{-3} < R_1 < 2500 \text{ Nsm}^{-3}$ .” Present Application claim 1, emphasis added.*

Independent claim 12 recites a “[m]ethod for making a vehicle rooflining with: an air-permeable support layer (3), an air-permeable first reinforcement layer (4) on a vehicle roof side of said support layer, and an air-permeable second reinforcement layer (5) on a passenger compartment side of said support layer, an air-impermeable back layer (9) on a vehicle roof side of said first reinforcement layer, an air-permeable decorative layer (6) on a passenger compartment side of said second reinforcement layer, and the back, first reinforcement, support, second reinforcement, and decorative layers being bonded to each other with an air-permeable adhesive (7), and further comprising a semi-permeable and migration-resistant barrier layer (8) provided between the second reinforcement layer (5) and the decorative layer (6) to make an acoustically optimisable and aesthetically-resistant vehicle rooflining, said method comprising: providing an air-impermeable back layer (9); covering said back layer with first reinforcement fibres (11); applying a support layer (3), to the reinforcement fibres (11); impregnating the back layer (9), reinforcement fibres (11) and support layer (3) jointly with a pre-determined quantity of a first component (12) of an adhesive (7) by transporting the back layer, reinforcement fibres and support layer together through a bath (13) filled with this first component (12) and then squeezing through first squeezing rollers (14) disposed downline from the bath; covering the thus impregnated support layer on a side thereof opposite the back layer with second reinforcement fibres (15); wetting the second reinforcement fibres with a second component (16) of the adhesive (7); applying a semi-permeable and migration-resistant barrier layer (8) to the second reinforcement fibres (15) and then pressing the layers with second squeezing rollers (17), in order to allow the two adhesive components (12, 16) to react with each other and thereafter applying a decorative layer (6) to the barrier layer (8) such that the layers on the passenger

*compartment side have an air flow resistance of  $500 \text{ Nsm}^{-3} < R_1 < 2500 \text{ Nsm}^{-3}$ .” Present Application claim 12, emphasis added.*

**c. The Teachings Of The Romesberg Et Al. ‘906 Patent**

The Romesberg et al. ‘906 patent discloses a headliner for mounting in a vehicle’s passenger compartment. The cited headliner discloses various laminated layers of foamed resin, fiber glass, non-woven scrim and a decorative layer. The Romesberg et al. ‘906 patent is silent as to the specific air flow resistance of the headliner.

**d. All Of The Elements Of The Presently Claimed Invention Are Not Present In The Cited Prior Art**

**i. Independent Claims 1 and 12**

In contrast to the presently claimed invention, the Romesberg et al. ‘906 patent does not disclose an airflow resistance. Rather, the Examiner infers the airflow resistance of the headliner disclosed in the Romesberg et al. ‘906 patent, asserting that “[the disclosed headliner] has the same claimed material features.” However, there are no *specific* materials recited in either independent claims 1 or 12. Therefore, the Examiner cannot conclude that the Romesberg et al. ‘906 patent discloses an airflow resistance as recited in independent claims 1 and 12 because there is no basis for such a conclusion.

With respect to the Examiner’s conclusions that Appellants’ claims must be incomplete due to the Appellants’ previous arguments, the Examiner read the arguments in the wrong light. The Examiner asserts that the Appellants have indicated that airflow resistance is dependent on various factors, which are not listed in the claims, and that if these factors are crucial, they would have been recited. However, the Examiner failed to grasp the Appellants’ argument that she

cannot simply make an inference of airflow resistance based on the type of material used. She did not adequately show how she came to her conclusion that airflow resistance is shown in the prior art. In stating that there are a multitude of factors that must be considered when determining air permeability, the Appellants were attempting to show that the Examiner's conclusion was a leap that had no logical support in view of the fundamentals of fluid mechanics. In no way were the Appellants attempting to assert that these factors are crucial to airflow resistance as recited in the claims of the present invention. On the contrary, the Appellants were attempting to show that these factors are a crucial component of the *Examiner's* conclusion and therefore should have been delineated in her arguments.

As all of the elements of independent claims 1 and 12 are not present in the prior art, the rejection of claims 1 and 12 under 35 U.S.C. §102(b) as being anticipated by the Romesberg et al. '906 patent is improper and reversal of the Examiner's final rejection is respectfully requested.

#### **ii. Dependent Claims 3 – 4, 8 – 9 and 13 – 18**

As outlined above in subsection "I(d)(i)," claims 1 and 12 are not anticipated by the Romesberg et al. '906 patent because all of the features recited in independent claims 1 and 12 are not present in the cited reference.

In the interest of brevity, Appellants incorporate herein by reference in their entirety the arguments presented above under subsection I(d)(i) with respect to the rejection of claims 1 and 12 under 35 U.S.C. §102(b) as being anticipated by the Romesberg et al. '906 patent and assert that these arguments apply with equal weight to the rejections of claims 3 – 4, 8 – 9 and 13 – 18, dependent therefrom. It is axiomatic that dependent claims contain all of the features of the independent claim from which they depend. Accordingly, just as claims 1 and 12 are not anticipated by the Romesberg et al. '906 patent as outlined above, claims 3 – 4 and 8 – 9, which

depend from claim 1, and claims 13 – 18, which depend from claim 12, are similarly not anticipated for at least the same reasons.

Further, with respect to dependent claims 3 – 4, 8 – 9 and 12 – 18, wherein specific materials *are* recited, the airflow resistance recited in the independent claims 1 and 12 is directed toward “the *layers* on the passenger compartment side hav[ing] an air flow resistance of  $500\text{Nsm}^{-3} < R_1 < 2500\text{Nsm}^{-3}$ .<sup>3</sup>” *Present Application*, claims 1 and 12, *emphasis added*. Claims 1 and 12 recite a plurality of “layers” that have a specified airflow resistance. Not all of the dependent claims specify a material for each layer. Of those dependent claims that do recite a specific material, they do so for no more than one of the layers of the rooflining. The only present claims that specify a material *on the passenger compartment side* are claims 8 and 17. As only one material is specified for a multi-layered article, the Examiner cannot infer an airflow resistance of *layers* on the passenger side of the claimed rooflining based on the materials of the headliner because there are simply not enough materials recited in the claims for the *Examiner’s* conclusion and therefore should have been delineated in her arguments.

As all of the elements of independent claims 1 and 12 are not present in the prior art, the rejections of dependent claims 3 – 4, 8 – 9 and 13 – 18 under 35 U.S.C. §102(b) as being anticipated by the Romesberg et al. ‘906 patent is improper and reversal of the Examiner’s final rejection is respectfully requested.

**e. Summary Of Reasons Why The Rejection Of Claims 1, 3 – 4, 8 – 9 and 12 – 18 Under 35 U.S.C. §102(b) As Being Anticipated By The Romesberg Et Al. ‘906 Patent Is Improper**

In summary, the rejection of claims 1, 3 – 4, 8 – 9, and 12 – 18 as being anticipated by the Romesberg et al. ‘906 patent is improper because all of the features of the independent claims are not present in the cited references. Specifically, the Examiner improperly infers an

airflow resistance where she does not have enough information to make such an inference.

Accordingly, reversal of the Examiner's final rejection of claims 1, 3 – 4, 8 – 9, and 12 – 18 is respectfully requested.

**II. CLAIMS 2 AND 19 IMPROPERLY STAND REJECTED AS BEING ANTICIPATED BY OR IN THE ALTERNATIVE AS BEING OBVIOUS OVER THE ROMESEBRG ET AL. '906 PATENT.**

The Examiner rejected claims 2 and 19 as being anticipated by or, in the alternative, as being obvious over the Romesberg et al. '906 patent.

For a reference to anticipate an invention, all of the elements of that invention must be present in the reference. The test for anticipation under section 102 is whether each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP §2131. The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP §2131. The elements must also be arranged as required by the claim. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990).

To establish a *prima facie* case of obviousness, the Examiner must establish: (1) that some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) that the prior art references teach or suggest all the claim limitations. *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); *Amgen, Inc. v. Chugai Pharm. Co.*, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); *In re Wilson*, 165 USPQ 494, 496 (C.C.P.A. 1970).

A *prima facie* case of obviousness must also include a showing of the reasons why it would have been obvious to modify the references to produce the presently claimed invention.

See *Ex parte Clapp*, 277 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). The Examiner bears the initial burden to provide some convincing line of reasoning as to why the ordinary skilled artisan would have found the claimed invention to have been obvious in light of the reference teachings. *Id.* at 974.

#### **a. The Examiner's Arguments**

As the basis of the rejections, the Examiner relies on the assertions made in her January 5, 2004 Office Action, which states the following:

“Although Romesberg does not explicitly teach the claimed layers on the passenger compartment side has an air flow resistance of  $500\text{Nsm}^{-3} < R_1 < 2500 \text{ Nsm}^{-3}$  as required by claim 2 and  $900 \text{ Nsm}^{-3} < R_1 < 1900\text{sm}^{-3}$  as required by claim 19, it is reasonable to presume that that passenger compartment side has an air flow resistance of  $500\text{Nsm}^3 < R_1 < 2500 \text{ Nsm}^3$  and  $900 \text{ Nsm}^{-3} < R_1 < 1900\text{Nsm}^{-3}$  is inherent to Romesberg. Support for said presumption is found in the use of like materials (i. e. a laminate comprising a decorative cover sheet, reinforcing layer, a rigid foam layer, a second reinforcing layer, a fibrous batt and a third reinforcing layer) which would result in the claimed property. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of the passenger compartment side has an air flow resistance of  $500\text{Nsm}^{-3} < R_1 < 2500 \text{ Nsm}^{-3}$  and  $900 \text{ Nsm}^{-3} < R_1 < 1900\text{sm}^{-3}$  would obviously have been present once the Romesberg product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977). *January 5, 2004 Office Action*, at 5.

#### **b. The Presently Claimed Invention**

Claim 2 has been canceled thereby rendering the rejection thereto moot. Claim 19 depends from claim 1 and recites a “[l]ining according to claim 1, wherein the layers on the passenger compartment side have an airflow resistance of  $900 \text{ Nms}^{-3} < R_1 < 1900 \text{ Nsm}^{-3}$ .”

#### **c. The Teachings Of The Romesberg Et Al. ‘906 Patent**

As stated above in section I(c), the Romesberg et al. ‘906 patent discloses a headliner for mounting in a vehicle’s passenger compartment. The cited headliner discloses various laminated

layers of foamed resin, fiber glass, non-woven scrim and a decorative layer. The Romesberg et al. '906 patent is silent as to the specific air flow resistance of the headliner.

**d. All Of The Elements Of The Presently Claimed Invention Are Not Present In The Cited Prior Art**

Appellants respectfully traverse this rejection because not all of the features of the present invention as claimed are present in the cited prior art to support an anticipation rejection. And, in view of the fact that the Examiner alternatively rejected claims 2 and 19 under 35 U.S.C. §103(a), Appellants respectfully traverse this rejection further because all three prongs required for a *prima facie* case of obviousness have not been established for the rejection of these claims. In particular, the Examiner failed to establish a *prima facie* case of obviousness because all of the features of the independent claims are neither taught nor suggested by any of the cited references.

As outlined above in subsection "I(d)(i)", claims 1 and 12 are not anticipated by the Romesberg et al. '906 patent because all of the features recited in independent claims 1 and 12 are not present in the cited reference.

In the interest of brevity, Appellants incorporate herein by reference in their entirety the arguments presented above under subheading "I(d)(i)" with respect to the rejection of claims 1 and 12 under 35 U.S.C. §102(b) as being anticipated by the Romesberg et al. '906 patent and assert that these arguments apply with equal weight to the present rejection of claim 19.

As stated above, the Romesberg et al. '906 patent does not disclose a headliner having an airflow resistance as recited in independent claim 1. In fact, the Romesberg et al. '906 patent does not disclose *any* amount of airflow resistance. Nor does the Romesberg et al. '906 patent teach or suggest an airflow resistance. Therefore, the narrower range for airflow resistance as

claimed in dependent claim 19 is neither taught nor suggested in the Romesberg et al. '906 patent.

Nonetheless, it is axiomatic that dependent claims contain all of the features of the independent claim from which they depend. Accordingly, just as claim 1 is neither anticipated nor rendered obvious by the Romesberg et al. '906 patent, claim 19, which depends from claim 1, is similarly neither anticipated nor obvious for at least the same reasons.

Accordingly, the rejection of claim 19 under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as being obvious over the Romesberg et al. '906 patent is improper and reversal of the Examiner's final rejection is respectfully requested.

**e. Summary Of Reasons Why The Rejection Of Claim 19 Under 35 U.S.C. §102(b) As Being Anticipated By Or, In The Alternative, Under 35 U.S.C. §103(a) As Being Obvious Over The Romesberg Et Al. '906 Patent Is Improper**

In summary, the rejection of claim 19 under as being anticipated by or, in the alternative, as being unpatentable over the Romesberg et al. '906 patent is improper because all of the features of the independent claim are not present in the cited references.

Accordingly, reversal of the Examiner's final rejection of claim 19 is respectfully requested.

**III. CLAIMS 1, 5 – 8, 10 and 20 IMPROPERLY STAND REJECTED UNDER 35 U.S.C. §103(A) AS BEING UNPATENTABLE OVER THE ROZEK ET AL. '209 PATENT IN VIEW OF THE DOERFLING ET AL. '353 PATENT AND THE SANDOE ET AL. '788 PUBLICATION.**

The Examiner rejected claims 1, 5 – 8, 10 and 20 as being unpatentable over the Rozek et al. '209 patent in view of the Doerfling et al. '353 patent and the Sandoe et al. '788 publication.

To establish a *prima facie* case of obviousness, the Examiner must establish: (1) that

some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) that the prior art references teach or suggest all the claim limitations. *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); *Amgen, Inc. v. Chugai Pharm. Co.*, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); *In re Wilson*, 165 USPQ 494, 496 (C.C.P.A. 1970).

A *prima facie* case of obviousness must also include a showing of the reasons why it would have been obvious to modify the references to produce the presently claimed invention. See *Ex parte Clapp*, 277 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). The Examiner bears the initial burden to provide some convincing line of reasoning as to why the ordinary skilled artisan would have found the claimed invention to have been obvious in light of the reference teachings. *Id.* at 974.

#### a. The Examiner's Arguments

As the basis of the rejections, the Examiner relies on the assertions made in her January 5, 2004 Office Action, which states the following:

Rozek is directed to a laminated article suitable for use as decorative sound absorbing panels for automotive applications and are well suited for use as vehicle headliners (Abstract). *January 5, 2004 Office Action*, at 6.

As to claim 1, Rozek teaches a laminate comprising a decorative cover sheet 22 adjacent to a reinforcing layer 20 adjacent to a rigid foam layer 14 adjacent to a second reinforcing layer 18 adjacent to a fibrous batt 12 adjacent to a third reinforcing layer 16 adjacent to a release layer 24. The decorative cover sheet 22, equated to Applicant's "air-permeable decorative layer (6)", can be porous fabric material (column 6, lines 11 – 15). The reinforcing layer 20 is equated to Applicant's "semi-permeable and migration resistant barrier layer (8)". The rigid foam layer 14, equated to Applicant's "air-permeable second reinforcement layer (5)", is sufficiently porous so that one can gently blow air at one side of the layer and feel the air coming through on the other side (column 7, lines 18 – 20). The second reinforcing layer 18, equated to Applicant's "air-permeable support layer (3)", is porous to a sufficient degree so it does not act as a sound reflector (column 4, lines 30 – 35). The fibrous batt 12, equated to Applicant's "air-permeable first reinforcement layer (4)", is needled (column 3,

lines 15 – 20) which would result in a permeable structure. The layers of the laminate are bonded together using a resin binder, equated to Applicant's "air-permeable adhesive (7)", which is provided in an amount that does not interfere excessively with the porosity of the laminate (column 5, lines 1 – 7). *Id.*

As to claims 5 – 6, Rozek teaches that the reinforcing layer 20, or "semi-permeable and migration resistant barrier layer (8)", can be a blend of natural fibers and thermoplastic fibers (column 5, lines 60 – 65). Rozek suggests that the thermoplastic fiber can be polyester (column 5, lines 25 – 60) and the natural fiber can be selected from sisal, abaca and coconut fibers, which are known to be cellulosic fibers. *Id.*, pp. 6 – 7.

As to claim 10, Rozek teaches that the adhesive (7) is an elastomeric composition comprising 100 parts by weight of a polyol having three or four hydroxyl groups, 85 parts by weight of an isocyanate compound having at least 2 reactive isocyanate groups, such as methylene-bis-phenyl isocyanate, 0.05 to 0.10 parts of a catalyst such as tin octoate or lead naphthanate, and 5 to 20 parts of solvent such as tricholorofluoromethane or methylene chloride (column 5, lines 13 – 20). Wenning (US 5,874,173) teaches that two-pack polyurethane adhesives are essentially characterized by polyisocyanates as hardeners and by predominately oligomeric diols and/or polyols as resin. Therefore, the adhesive of Rozek can be considered to be a two-pack polyurethane adhesive. *Id.* at 7.

As to claim 1 and 7 – 8, Rozek fails to teach that the reinforcing layer 20, or "semipermeable and migration resistant barrier layer (8)", is a migration-resistant barrier layer as required by claim 1. Rozek fails to teach that the surface of the barrier layer is treated or wetted so that it can enter into adhesion with the adhesive 7. Rozek fails to teach that the fibrous batt 12, or "semi-permeable and migration-resistant barrier layer (8)", is migration-resistant to softeners, decomposition products used by ageing and/or additives from the polyurethane foam layer or the adhesive films as required by claims 8. *Id.*

Doerfling is directed to a decorative covering material for enhancing the exterior appearance of a vehicle panel (Abstract). Doerfling teaches the use of a barrier coating or film to applied *sic* on a fabric to prevent or inhibit undesired migration of constituents to and from the adhesive film to the exterior surface of a facing sheet which may produce a discoloration or other surface imperfection therein. The barrier coating may also serve as a so-called tie coat for enhancing the strength of the initial or final bond of the adhesive coating to the underside of the facing sheet (column 4, lines 10 - 23). *Id.* pp. 8 – 9.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to treat the reinforcing layer 20, or "semi-permeable and migration resistant barrier layer (8)", in the laminate of Rozek with the barrier coating or film of Doerfling to create a migration-resistant

barrier layer motivated by the desire to enhance the strength of the adhesive bond while minimizing discolorations and surface imperfections. *Id.* at 8.

As to claim 1, Rozek in view of Doerfling fails to teach Applicant's 'air-impermeable back layer (9)' on the vehicle roof side." *Id.*

Sandoe et al. (US 2001/0036788 A1) is directed to a vehicle headliner and laminate (Title). Sandoe teaches that vehicle headliners on the interior of the automobile are a decorative panel which separates the passenger compartment from the sheet metal forming the roof of the vehicle (page 1, [0005]). The Examiner equates the inherently air-impermeable sheet metal roof to Applicant's "air-impermeable back layer (9)". *Id.*

It would have been obvious to one of ordinary skill in the art at the time the invention was made to consider the sheet metal roof of Sandoe to be the final layer, or "air-impermeable back layer (9)", of Rozek in view of Doerfling motivated by the desire to employ the laminate of Rozek in view of Doerfling in a final product such as a lined roof. *Id.*

As to claims 5 and 20, Rozek fails to teach that the fabric weighs approximately 20 to 60 g/m<sup>2</sup> as required by claim 5 or approximately 45 g/m<sup>2</sup> as required by claim 20. It should be noted that the fabric weight is a result effective variable; for example, as the weight increases, the fabric becomes heavier and more rigid. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a mixed fiber fabric with a fabric weight of approximately 20 to 60 g/m<sup>2</sup> as required by claim 5 or approximately 45 g/m<sup>2</sup> as required by claim 20, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the fabric weight to create a suitably flexible and strong fabric for use in a laminate. *Id.* at 9.

#### **b. The Presently Claimed Invention**

The only independent claim at issue with respect to this particular rejection is independent claim 1 from which all of the other rejected claims depend. Independent claim 1 recites a "[l]ining for a vehicle roof (2) with: an air-permeable support layer (3), an air-permeable first reinforcement layer (4) on a vehicle roof side of said support layer, and an air-

permeable second reinforcement layer (5) on a passenger compartment side of said support layer, an air-impermeable back layer (9) on a vehicle roof side of said first reinforcement layer, an air-permeable decorative layer (6) on a passenger compartment side of said second reinforcement layer, and the back, first reinforcement, support, second reinforcement, and decorative layers being bonded to each other with an air-permeable adhesive (7), and further comprising a semi-permeable and migration-resistant barrier layer (8) provided between the second reinforcement layer (5) and the decorative layer (6) to make an acoustically optimisable and aesthetically-resistant vehicle rooflining, wherein the layers on the passenger compartment side have an air flow resistance of  $500 \text{ Nsm}^{-3} < R_1 < 2500 \text{ Nsm}^{-3}$ .”

Of the rejected dependent claims, dependent claim 5 recites: a “[l]ining according to claim 1, wherein the barrier layer (8) comprises a mixed fibre fabric weighing approximately 20 g/m<sup>2</sup> to 60 g/m<sup>2</sup>,” dependent claim 6 recites: a “[l]ining according to Claim 5, wherein the barrier layer (8) comprises cellulose and polyester fibres bonded together;” dependent claim 7 recites: a “[l]ining according to Claim 6, wherein a surface of the barrier layer is treated or wetted so that said treated or wetted surface can enter into adhesion with said adhesive;” dependent claim 8 recites: a “[l]ining according to Claim 1, wherein the barrier layer (8) is migration-resistant to softeners, decomposition products used by ageing and / or additives from a polyurethane foam layer or adhesive films;” dependent claim 10 recites: a “[l]ining according to Claim 1, wherein the adhesive (7) is a conventional two-pack polyurethane adhesive;” dependent claim 11 recites: a “[l]ining according to Claim 1, wherein the decorative layer (6) is an air-permeable polyethylene non-woven fabric layer;” and dependent claim 20 recites: a “[l]ining according to claim 5, wherein the barrier layer (8) comprises a mixed fibre fabric, weighing approximately 45 g/m<sup>2</sup>. ”

**c. The Teachings Of The Rozek Et Al. '209 Patent, The Doerfling Et Al. '353 Patent, And The Sandoe Et Al. '788 Publication**

The Rozek et al. '209 patent discloses a thermoformed contoured laminated structure for use as a decorative sound absorbing panel for vehicle applications. The cited headliner discloses various porous rigid layers, porous fibrous layers and reinforcing layers; however, the Rozek et al. '209 patent is silent as to the specific air flow resistance of the headliner.

The secondary Doerfling et al. '353 reference discloses a decorative covering material and a process for applying the decorative covering to vehicle panels. The covering material comprises a heat-softenable plastic sheet incorporating a coating of a heat-activatable adhesive over substantially the entire undersurface of the covering plastic sheet.

The secondary Sandoe et al. '788 publication discloses a headliner made from a laminate comprising a core layer sandwiched between two stiffening layers to form an I-beam construction that provides the necessary strength for the headliner. The core layer and stiffening layers are comprised of nonwoven fibers and include some binder fibers.

**d. All Of The Elements Of The Presently Claimed Invention Are Not Present In The Cited Prior Art**

Appellants respectfully traverse these rejection because all three prongs required for a *prima facie* case of obviousness have not been established for the rejection of these claims. In particular, the Examiner failed to establish a *prima facie* case of obviousness because all of the features of the independent claims are neither taught nor suggested by any of the cited references.

In rejecting claims 1, 5 – 8, 10 and 20, the Examiner relied on the arguments she made in her Office Action dated January 5, 2004. This rejection was made *before* the features of claim 2,

namely “layers on the passenger compartment side hav[ing] an air flow resistance of  $500\text{Nsm}^{-3} < R_1 < 2500\text{Nsm}^{-3}$ , were incorporated into independent 1. To meet the airflow feature, the Examiner relies on the Romesberg et al. ‘906 patent. However, even though this feature is now recited in each claim, the Examiner did not assert the Romesberg et al. ‘906 patent against claims 5 – 8, 10 and 20. Therefore, in this most recent Office Action on which this Appeal is based, the Examiner never addressed whether this feature added to independent claim 1 is taught or suggested by the Rozek et al. ‘209 patent, the Doerfling et al. ‘353 patent, or the Sandoe ‘788 publication. As such, the Examiner has not established a *prima facie* case of obviousness as the Examiner has not shown where all of the features of independent claim 1 are present in the cited prior art references.

Neither the Rozek et al. ‘209 patent, the Doerfling et al. ‘353 patent, nor the Sandoe ‘788 publication teaches or suggests a headliner having an airflow resistance of  $500\text{Nsm}^{-3} < R_1 < 2500 \text{ Nsm}^{-3}$  as recited in independent claim 1. In fact, neither the Rozek et al. ‘209 patent, the Doerfling et al. ‘353 patent, nor the Sandoe ‘788 publication teaches or suggests *any* amount of airflow resistance. This feature is simply neither taught nor suggested in any of the references.

Accordingly, the rejection of claim 1 under 35 U.S.C. §103(b) as being unpatentable over the Rozek et al. ‘209 patent in view of the Doerfling et al. ‘353 patent and the Sandoe ‘788 publication is improper and reversal of the Examiner’s final rejection is respectfully requested.

Also, as dependent claims contain all of the features of the independent claim from which they depend, the rejection of claims 5 – 8, 10 and 20 under 35 U.S.C. §103(b) as being unpatentable over the Rozek et al. ‘209 patent in view of the Doerfling et al. ‘353 patent and the Sandoe ‘788 publication is improper and reversal of the Examiner’s final rejection is also respectfully requested.

**e. Summary Of Reasons Why The Rejection Of 1, 5 – 8, 10 And 20 As Being Unpatentable Over The Rozek Et Al. '209 Patent In View Of The Doerfling Et Al. '353 Patent And The Sandoe '788 Publication**

In summary, the rejection of claims 1, 5 – 8, 10 and 20 as being unpatentable over the Rozek et al. '209 patent in view of the Doerfling et al. '353 patent and the Sandoe '788 publication is improper because the Examiner has not established a *prima facie* case that all of the features of the claims are taught or suggested by the cited references.

Accordingly, reversal of the Examiner's final rejection of claims 1, 5 – 8, 10 and 20 is respectfully requested.

**IV. CLAIM 11 IMPROPERLY STANDS REJECTED UNDER 35 U.S.C. §103(A) AS BEING UNPATENTABLE OVER THE ROMESBERG ET AL. '906 PATENT IN VIEW OF THE BLUM ET AL. '432 PATENT.**

The Examiner rejected claim 11 as being unpatentable over the Romesberg et al. '906 patent in view of the Blum et al. '432 patent.

To establish a *prima facie* case of obviousness, the Examiner must establish: (1) that some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) that the prior art references teach or suggest all the claim limitations. *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); *Amgen, Inc. v. Chugai Pharm. Co.*, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); *In re Wilson*, 165 USPQ 494, 496 (C.C.P.A. 1970).

A *prima facie* case of obviousness must also include a showing of the reasons why it would have been obvious to modify the references to produce the presently claimed invention. See *Ex parte Clapp*, 277 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). The Examiner bears the initial burden to provide some convincing line of reasoning as to why the ordinary skilled artisan would have found the claimed invention to have been obvious in light of the reference teachings. *Id.* at 974.

**a. The Examiner's Arguments**

As the basis of the rejection, the Examiner relies on the assertions made in her January 5, 2004 Office Action, which states the following:

Romesberg discloses that the decorative cover sheet 22, equated to Applicant's "airpermeable decorative layer (6)", can be porous fabric material (column 6, lines 11 – 15) but fails to disclose that the decorative cover sheet is a polyethylene nonwoven. *January 9, 2004 Office Action*, at 9.

Blum et al. teaches molded parts useful for headliners (column 16, lines 30 – 35) comprising a decorative material (column 16, lines 14 – 15). The decorative material can be a non-woven material comprising polyethylene (column 16, lines 15 – 23). *Id.*

It would have been obvious to one of ordinary skill in the art at the time the invention was made to create the decorative layer of Maeda *sic* in view of Doerfling *sic* from a polyethylene nonwoven fabric as suggested by Blum motivated by the expectation that polyethylene is high in strength and highly resistant to environmental insults such as mildew. *Id.* pp. 9 – 10.

**b. The Presently Claimed Invention**

Claim 11 depends from claim 1 and recites a "[l]ining according to Claim 1, wherein the decorative layer (6) is an air-permeable polyethylene nonwoven fabric layer."

**c. The Teachings Of The Romesberg Et Al. '906 Patent and The Blum Et Al. '432 Patent.**

As stated above, the Romesberg et al. '906 patent discloses a headliner for mounting in a vehicle's passenger compartment. The cited headliner discloses various laminated layers of foamed resin, fiber glass, non-woven scrim and a decorative layer. The Romesberg et al. '906 patent is silent as to the specific air flow resistance of the headliner.

The Blum et al. '432 patent discloses a heat-curable composition, which is storageable at room

temperature and which can be heat cured to form molded parts. The Examiner cited this reference for its disclosure of a polyethylene nonwoven. The Blum et al. '432 patent is silent as to the specific airflow resistance of the headliner.

**d. All Of The Elements Of The Presently Claimed Invention Are Not Present In The Cited Prior Art**

Appellants respectfully traverse this rejection because all three prongs required for a *prima facie* case of obviousness have not been established for the rejection of this claim. In particular, the Examiner failed to establish a *prima facie* case of obviousness because all of the features of the underlying independent claim are neither taught nor suggested by any of the cited references.

As outlined above in subsection "II(d)," claim 1 is not obvious over the Romesberg et al. '906 patent because all of the features recited in independent claim 1 are neither taught nor suggested by the cited references.

In the interest of brevity, Appellants incorporate herein by reference in their entirety the arguments presented above under subheading "II(d)" with respect to the rejection of claim 1 under 35 U.S.C. §102(b)/103(a) as being anticipated by or, in the alternative, as being obvious over the Romesberg et al. '906 patent and assert that these arguments apply with equal weight to the present rejection of claim 11.

The Blum et al. '432 patent does not account for the deficiencies of the Romesberg '906 patent. Neither the Romesberg et al. '906 patent nor the Blum et al. '432 patent teaches or suggests a vehicle headliner having layers on a passenger side with an air flow resistance of 500 Nsm<sup>-3</sup> < R1 < 2500 Nsm<sup>-3</sup> as recited in independent claim 1, the claim from which claim 11 depends.

It is axiomatic that dependent claims contain all of the features of the independent claim from which they depend. Accordingly, just as claim 1 is not obvious over the Romesberg et al. '906 patent or the Blum et al. '432 patent as outlined above, claim 11, which depends from claim 1, is similarly not obvious for at least the same reasons.

Accordingly, the rejection of claim 11 under 35 U.S.C. §103(a) as being obvious over the Romesberg et al. '906 patent in view of the Blum '432 patent is improper and reversal of the Examiner's final rejection is respectfully requested.

**e. Summary Of Reasons Why The Rejection Of Claim 11 Under 35 U.S.C. §103(a) As Being Obvious Over The Romesberg Et Al. '906 Patent Is Improper**

In summary, the rejection of claim 11 as being obvious over the Romesberg et al. '906 patent in view of the Blum et al. '432 patent is improper because all of the features of the underlying independent claim are neither taught nor suggested by the cited references.

Accordingly, reversal of the Examiner's final rejection of claim 11 is respectfully requested.

**V. CLAIM 21 IMPROPERLY STANDS REJECTED UNDER 35 U.S.C. §103(A) AS BEING UNPATENTABLE OVER THE ROMESBERG ET AL. '906 PATENT.**

The Examiner rejected claim 21 as being unpatentable over the Romesberg et al. '906 patent.

To establish a *prima facie* case of obviousness, the Examiner must establish: (1) that some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) that the prior art references teach or suggest all the claim limitations. *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); *Amgen, Inc. v. Chugai Pharm. Co.*, 18 USPQ2d 1016,

1023 (Fed. Cir. 1991); *In re Wilson*, 165 USPQ 494, 496 (C.C.P.A. 1970).

A *prima facie* case of obviousness must also include a showing of the reasons why it would have been obvious to modify the references to produce the presently claimed invention. See *Ex parte Clapp*, 277 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). The Examiner bears the initial burden to provide some convincing line of reasoning as to why the ordinary skilled artisan would have found the claimed invention to have been obvious in light of the reference teachings.

*Id.* at 974.

**a. The Examiner's Arguments**

As the basis of the rejection, the Examiner relies on the assertions made in her January 5, 2004 Office Action, which states the following:

Romesberg fails to teach that the “semi-permeable and migration-resistant barrier layer” has a thickness of 0.285 mm. It should be noted that the thickness is a result effective variable; for example, as the thickness increases, the fabric becomes heavier and more rigid. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create the “semi-permeable and migration-resistant barrier layer” with a thickness of 0.285 mm, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the thickness to create a suitably flexible and strong fabric for use in a laminate. *January 5, 2004 Office Action* at 10.

**b. The Presently Claimed Invention**

Claim 21 depends from claim 9, which depends from claim 1, and recites a “[l]ining according to Claim 9, wherein the barrier layer (8) has a thickness of 0.285 mm.”

**c. The Teachings Of The Romesberg Et Al. '906 Patent**

As stated above, the Romesberg et al. '906 patent discloses a headliner for mounting in a

vehicle's passenger compartment. The cited headliner discloses various laminated layers of foamed resin, fiber glass, non-woven scrim and a decorative layer. The Romesberg et al. '906 patent is silent as to the specific air flow resistance of the headliner.

**d. All Of The Elements Of The Presently Claimed Invention Are Not Present In The Cited Prior Art**

Appellants respectfully traverse this rejection because all three prongs required for a *prima facie* case of obviousness have not been established for the rejection of these claims. In particular, the Examiner failed to establish a *prima facie* case of obviousness because all of the features of the underlying independent claim are neither taught nor suggested by any of the cited references.

As outlined above in subsection "II(d)," claim 1 is not obvious over the Romesberg et al. '906 patent because all of the features recited in independent claim 1 are neither taught nor suggested by the cited reference.

In the interest of brevity, Appellants incorporate herein by reference in their entirety the arguments presented above under subheading "II(d)" with respect to the rejection of claim 1 under 35 U.S.C. §102(b)/103(a) as being anticipated by or, in the alternative, as being obvious over the Romesberg et al. '906 patent and assert that these arguments apply with equal weight to the present rejection of claim 21.

It is axiomatic that dependent claims contain all of the features of the independent claim from which they depend. Accordingly, just as claim 1 is not obvious over the Romesberg et al. '906 patent as outlined above, claim 21, which ultimately depends from claim 1, is similarly not obvious for at least the same reasons.

Accordingly, the rejection of claim 21 under 35 U.S.C. §103(a) as being obvious over the

Romesberg et al. '906 patent is improper and reversal of the Examiner's final rejection is respectfully requested.

**e. Summary of Reasons Why The Rejection Of Claim 21 Under 35 U.S.C. §103(a) As Being Obvious Over The Romesberg Et Al. '906 Patent Is Improper**

In summary, the rejection of claim 21 as being obvious over the Romesberg et al. '906 patent is improper because all of the features of the underlying independent claim are neither taught nor suggested by the cited reference. Accordingly, reversal of the Examiner's final rejection is respectfully requested.

**CONCLUSION**

For the foregoing reasons, Appellants respectfully submit that the Examiner's final rejections of claims 1 and 3 – 21 were erroneous. Accordingly, Appellants respectfully request reversal of the Examiner's final decision.

The Commissioner is authorized to charge Deposit Account No. 14-0112 for any additional charges in connection with this appeal.

The Board is welcomed to contact the undersigned attorney if such contact would be helpful in the further prosecution of this case.

Respectfully submitted,

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**Appendix A**

**Claims on Appeal**

1. Lining for a vehicle roof (2) with:
  - an air-permeable support layer (3),
  - an air-permeable first reinforcement layer (4) on a vehicle roof side of said support layer,
  - and an air-permeable second reinforcement layer (5) on a passenger compartment side of said support layer,
  - an air-impermeable back layer (9) on a vehicle roof side of said first reinforcement layer,
  - an air-permeable decorative layer (6) on a passenger compartment side of said second reinforcement layer, and
  - the back, first reinforcement, support, second reinforcement, and decorative layers being bonded to each other with an air-permeable adhesive (7),
  - and further comprising a semi-permeable and migration-resistant barrier layer (8) provided between the second reinforcement layer (5) and the decorative layer (6) to make an acoustically optimisable and aesthetically-resistant vehicle rooflining,
    - wherein the layers on the passenger compartment side have an air flow resistance of  $500 \text{ Nsm}^{-3} < R_1 < 2500 \text{ Nsm}^{-3}$ .
2. (canceled)
3. Lining according to claim 1, wherein the air-permeable support layer (3) is made from a polyurethane foam.

4. Lining according to claim 1, wherein the first reinforcement layer (4) comprises a glass fibre layer.
5. Lining according to claim 1, wherein the barrier layer (8) comprises a mixed fibre fabric weighing approximately 20 g/m<sup>2</sup> to 60 g/m<sup>2</sup>.
6. Lining according to Claim 5, wherein the barrier layer (8) comprises cellulose and polyester fibres bonded together.
7. Lining according to Claim 6, wherein a surface of the barrier layer is treated or wetted so that said treated or wetted surface can enter into adhesion with said adhesive.
8. Lining according to Claim 1, wherein the barrier layer (8) is migration-resistant to softeners, decomposition products used by ageing and / or additives from a polyurethane foam layer or adhesive films.
9. Lining according to Claim 1, wherein the barrier layer (8) has a thickness of 0.2 mm to 1.0 mm.
10. Lining according to Claim 1, wherein the adhesive (7) is a conventional two-pack polyurethane adhesive.
11. Lining according to Claim 1, wherein the decorative layer (6) is an air-permeable polyethylene non-woven fabric layer.

12. Method for making a vehicle rooflining with:  
an air-permeable support layer (3),  
an air-permeable first reinforcement layer (4) on a vehicle roof side of said support layer,  
and an air-permeable second reinforcement layer (5) on a passenger compartment side of said support layer,  
an air-impermeable back layer (9) on a vehicle roof side of said first reinforcement layer,  
an air-permeable decorative layer (6) on a passenger compartment side of said second reinforcement layer, and  
the back, first reinforcement, support, second reinforcement, and decorative layers being bonded to each other with an air-permeable adhesive (7),  
and further comprising a semi-permeable and migration-resistant barrier layer (8) provided between the second reinforcement layer (5) and the decorative layer (6) to make an acoustically optimisable and aesthetically-resistant vehicle rooflining, said method comprising:  
providing an air-impermeable back layer (9);  
covering said back layer with first reinforcement fibres (11);  
applying a support layer (3), to the reinforcement fibres (11);  
impregnating the back layer (9), reinforcement fibres (11) and support layer (3) jointly with a pre-determined quantity of a first component (12) of an adhesive (7) by transporting the back layer, reinforcement fibres and support layer together through a bath (13) filled with this first component (12) and then squeezing through first squeezing rollers (14) disposed downline from the bath;  
covering the thus impregnated support layer on a side thereof opposite the back layer with second reinforcement fibres (15); wetting the second reinforcement fibres with a second

component (16) of the adhesive (7);

applying a semi-permeable and migration-resistant barrier layer (8) to the second reinforcement fibres (15) and then pressing the layers with second squeezing rollers (17), in order to allow the two adhesive components (12, 16) to react with each other and thereafter applying a decorative layer (6) to the barrier layer (8) such that the layers on the passenger compartment side have an air flow resistance of  $500 \text{ Nsm}^{-3} < R_1 < 2500 \text{ Nsm}^{-3}$ .

13. The method according to claim 12 further comprising cutting to size and hot shaping.

14. The method according to claim 12 wherein said decorative layer is self adhesive.

15. The method according to claim 12 wherein said first reinforcement fibres comprise glass fibres.

16. The method according to claim 12 wherein said support layer comprises a polyurethane foam layer.

17. The method according to claim 12 wherein said second reinforcement fibres comprise glass fibres.

18. The method according to claim 12 wherein said step of wetting comprises spraying.

19. Lining according to claim 1, wherein the layers on the passenger compartment side

have an air flow resistance of  $900 \text{ Nms}^{-3} < R_1 < 1900 \text{ Nsm}^{-3}$ .

20. Lining according to claim 5, wherein the barrier layer (8) comprises a mixed fibre fabric, weighing approximately  $45 \text{ g/m}^2$ .

21. Lining according to Claim 9, wherein the barrier layer (8) has a thickness of 0.285 mm.

**Appendix B**

**Evidence**

None.

**Appendix C**

**Related Proceedings**

None.